



2002721

COVER NOTE

Number: 1922 Page:1

ISSUED BY: American E&S Insurance Brokers
520 Pike Street, Suite 2120
Seattle, WA 98101

This is to certify that the following insurance has been effected for your account
subject to the terms and conditions contained herein:

NAMED INSURED: Burlington Northern and Santa Fe Railway Co.

DESIGNATED CONTRACTOR: IRS Environmental of WA, Inc.

ADDRESS: 12415 E. Trent Spokane, WA 99216

CARRIER: Royal Surplus Lines Insurance Company

POLICY NUMBER: K2HA121732

POLICY TERM: From: 11/21/02 12:01 A.M. Standard Time
To: 11/21/03

COVERAGE: Railroad Protective Liability 1996 ISO Occurrence Form

LIMITS: \$2,000,000 Each Occurrence
\$6,000,000 General Aggregate

RATE: Flat Charge

TERMS & CONDITIONS: 100% fully earned premium at policy inception.

ATTACH: Absolute Asbestos Exclusion, Patent Infringement / Intellectual Property
Exclusion, Fungi or Bacteria Exclusion, Nuclear Energy Liability Exclusion, Service of
Suit, Amendment of Insuring Agreement, FELA Exclusion, War & Terrorism Exclusion,
Lead Exclusion, Minimum Premium- RRP. Defense is outside the limit.

PREMIUM: Minimum & Deposit

BROKERAGE FEE:

WA STATE TAX

SLSC:

TOTAL:

This contract is registered and delivered as a surplus line
coverage under the insurance code of the state of Washington,
enacted in 1947. It is not issued by a company regulated by
the Washington state insurance commissioner and is not
protected by any Washington state guaranty fund law.
American E & S Ins. Brokers

Total premium due within 21 days of the effective date of coverage. All policy and
broker fees are non-refundable.

ADDENDUM PAGE

COVER NOTE NUMBER: 1922 PAGE: 2

NAMED INSURED: IRS Environmental of WA, Inc.

POLICY NUMBER: K2HA121732

DATE ISSUED: November 21, 2002

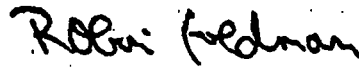
COVER NOTE PROVISIONS

IMPORTANT: This insurance cannot be canceled flat.
 Earned Premium must be paid for the
 time insurance has been in force.

This cover note is based on cable and / or mail and / or telephone advices from the above insurer (s) and is subject to policy conditions, when, as and if insured and is issued by the undersigned without any liability whatsoever as insurer, being solely for the convenience of the insured and is to be automatically canceled and superseded by the policy upon issuance.

CANCELLATION: This cover may be canceled by either the insured or the insurer by written notice to the other. In the event of cancellation the earned premium will be computed short rate if canceled by the insured unless subject to minimum premium and pro rata if canceled by the insurer.

If the premium is not paid within the time specified in the section. "Terms and Conditions" of this cover note, the insurance evidenced by this cover note shall automatically terminate at the end of the time specified and the short rate premium shall be due and payable.



AUTHORIZED REPRESENTATIVE

DATE (MM/DD/YY)
02/25/2002

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURER A: Cincinnati Insurance Co

INSURER B:

INSURER C-

INSURER D-

INSURER F.

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS:	
A	GENERAL LIABILITY	CPP0734228	02/28/2002	02/28/2003	EACH OCCURRENCE	\$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				FIRE DAMAGE (Any one fire)	\$ 100,000
	<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				MED EXP (Any one person)	\$ 5,000
					PERSONAL & ADV INJURY	\$ 1,000,000
					GENERAL AGGREGATE	\$ Unlimited
					PRODUCTS - COMP/OP AGG	\$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:					
	<input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC					
A	AUTOMOBILE LIABILITY	CAP5461613	02/28/2002	02/28/2003	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per person)	\$
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident)	\$
	<input type="checkbox"/> SCHEDULED AUTOS				PROPERTY DAMAGE (Per accident)	\$
	<input type="checkbox"/> HIRED AUTOS					
	<input type="checkbox"/> NON-OWNED AUTOS					
	ARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	\$
	<input type="checkbox"/> ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	\$
					AGG	\$
A	EXCESS LIABILITY	CCC4439017-02	02/28/2002	02/28/2003	EACH OCCURRENCE	\$ 4,000,000
	<input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE				AGGREGATE	\$ 4,000,000
	<input type="checkbox"/> DEDUCTIBLE					\$
	<input checked="" type="checkbox"/> RETENTION \$					\$
						\$
						\$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WC1910547	03/01/2002	03/01/2003	<input checked="" type="checkbox"/> WC STATU- TORY LIMITS <input type="checkbox"/> OTH- ER	
	E.L. EACH ACCIDENT				\$ 1,000,000	
	E.L. DISEASE - EA EMPLOYEE				\$ 1,000,000	
	E.L. DISEASE - POLICY LIMIT				\$ 1,000,000	
A	OTHER Railroad Protective Liability	CAP7630722	05/15/2001	05/15/2004	\$250,000 Each Occurrence \$750,000 Aggregate Limit	

DESCRIPTION OF OPERATIONS/LOCATION/VEHICLE/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS
Insurance covers incidents that occur within 50' of railroad tracks; the railroad exclusion has been deleted. The Burlington Northern and Santa Fe Railway Co. are added as additional insureds with respects to liability arising out of operations performed by or on behalf of the

CERTIFICATE HOLDER

ADDITIONAL INSURED: INSURER LETTER:

CANCELLATION

**Burlington Northern & Santa Fe
Railway Co
Attn: Leslie Hill
PO Box 9085
Mission Viejo, CA 92609-9085**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ~~00000000~~ MAIL

30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAME(D) TO THE LEFT.

XX
XX

AUTHORIZED REPRESENTATIVE

Su Egner/SYE

Burlington Northern & Santa Fe

Certificate issued to Burlington Northern & Santa Fe

02/25/2002

CHARLTON MANLEY INC

04/12/1999

ed insured, auto and general liability. Any coverage afforded Railroad, the Certificate Holder as additional insured shall apply as primary and not excess to any insurance issued in the name of the Railroad. Waiver of Subrogation in favor of the Burlington Northern & Santa Fe Railway Co. is added to workers' compensation policy. File Number 04089901. Workers' Compensation policy covers all states but the monopolistic states.

10/10/2002

PRODUCER (509)325-3024 FAX (509)325-1803
 Moloney, O'Neill, Corkery & Jones, Inc.
 1206 N Lincoln, Suite #200
 Spokane, WA 99201

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 ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE
 HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR
 ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURED IRS Environmental of Wa Inc
 12415 E Trent Ave
 Spokane, WA 99216

INSURER A: Steadfast Insurance Company
 INSURER B: American Guarantee & Liability
 INSURER C: Zurich American Ins Co
 INSURER D:
 INSURER E:

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR GENTL AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC	AA0368149002	10/15/2002	10/15/2003	EACH OCCURRENCE \$ 2,000,000 FIRE DAMAGE (Any one fire) \$ 50,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000
AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	BAP376904402	10/15/2002	10/15/2003	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ AUTO ONLY - EA ACCIDENT \$ OTHER THAN AUTO ONLY: EA ACC \$ AGG \$
GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				EACH OCCURRENCE \$ AGGREGATE \$ DEDUCTIBLE \$ RETENTION \$
EXCESS LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ DEDUCTIBLE \$ RETENTION \$
WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	WC378021102	10/15/2002	10/15/2003	WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
OTHER				

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS
 IR IS NAMED AS ADDITIONAL INSURED WITH RESPECTS TO OPERATIONS OF THE
 IMED INSURED AS GRANTED BY THE POLICY.

CERTIFICATE HOLDER

ADDITIONAL INSURED: INSURER LETTER:

CANCELLATION

Add BNSF

EMR

ATTN: WARREN WIEBE Dan Clabaugh
 2509 152ND AVE NE SUITE E
 REDMOND, WA 98050-5548

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE
 EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL
 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT.
 BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY
 OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE
 MARK ROFF/CH

CORD 25-S (7/97) FAX: (785)842-3863

425 869 7820

GACORD CORPORATION 1988

COPY

Experience Profile
Don Clabaugh, PE
Principal Engineer

EDUCATION

M.S. Engineering Geology, University of Akron, 1984

B.S. Engineering Geology, University of Kansas, 1983

PROFESSIONAL AFFILIATIONS

Professional Engineer (Civil/Sanitary) in Washington, Oregon, Idaho, Kansas, Illinois and Alaska

National Groundwater Association

EXPERIENCE SUMMARY

Mr. Clabaugh has 18 years of experience as an environmental consultant. He is currently Vice President in charge of Northern Operations, and manages projects and personnel in EMR's Chicago, Minneapolis, Duluth and Seattle offices. Mr. Clabaugh has specific technical expertise in civil engineering, regulatory compliance and litigation support, and is a recognized expert in the field of hydrogeology. He was the invited moderator for the Ground water Geochemistry Conference sessions on ground water monitoring well materials compatibility hosted by the National Ground water Associations. Mr. Clabaugh also was a reviewer for the "Green Book" (the US EPA guidance manual on ground water monitoring).

Mr. Clabaugh was the Project Manager for the RI/FS on the largest operable unit of the largest NPL site in the country; the Old Works East Anaconda Development Area of the Clark Fork NPL Site in Anaconda, Montana. At that site and other mining-related sites, Mr. Clabaugh used his technical expertise in unsaturated zone hydrology, mineral- and hydrogeo-chemistry, groundwater and colloid transport of metals, and hydraulic design to complete the RI/FS and remedial design.

Mr. Clabaugh has specific technical expertise in the following areas:

- Conducting remedial investigations and feasibility studies (RI/FS), risk-based corrective actions and Brownfields projects with emphasis on risk- or remedial-action focused cost effective solutions.
- Remedial design of well and trench systems, soil vacuum extraction (SVE), air sparging, steam injection vapor extraction (SIVE), slurry walls, solidification systems, and soil and water treatment.
- Compliance and monitoring programs for federal and state regulations including CERCLA, TSCA, RCRA, CWA, UST, MTCA, GWQS and SPCC.
- Water supply development and well design. Siting new ground-water supplies in buried valley systems using surface geophysics followed by boring programs and aquifer tests. Design and construction of vertical or horizontal (radial collector) wells to minimize operation and maintenance costs.
- Permitting, design and operation of RCRA Subtitle D and municipal landfills. Use of statistical/chemical equilibria evaluations to minimize ground-water monitoring requirements.

SELECTED PROJECTS

Whiting Refinery/J&L Landfill Remedial Design, Whiting, Indiana.

Remedial Engineer \ Project Manager. Designed interceptor trench systems, recovery wells, dual phase extraction wells, and well point systems for recovery of free phase and dissolved hydrocarbons and hydraulic control of the site boundary at a 700-acre CERCLA NPL refinery/landfill. Efforts included Engineering Evaluation/Cost Analysis (EE/CA) and FS preparation, geochemical modeling, preparation of master remediation plans, pumping test analysis, hydraulic design, and performance modeling.

Motorola Mountain-Top Generator ASTs, Schaumburg, Illinois.

Completed investigation and cleanup of aboveground storage tank (AST) spills, including soil and groundwater contamination, at sites ranging from Florida to Alaska.

Virginia Wood Preservers (Rentokil) RI and EE/CA, Richmond, Virginia.

Conducted an RI at an operating NPL status wood treating plant. Contaminants were creosote, pentachlorophenol and copper chromate arsenate. Geophysics, soil and groundwater sampling, pumping tests and groundwater modeling were utilized to evaluate fate and transport. Evaluated remediation including bioaccumulation, excavation, and interceptor trench systems. Remedial costs were compared in an EE/CA.

UST Site Remedial Design, various sites in Washington, Oregon, Kansas, Missouri, and Nebraska.

Project Manager/ Senior Engineer for Amoco, Texaco, Time, Sinclair and others. Designed and supervised installation of recovery wells, interceptor trenches, soil vacuum extraction and air sparging systems for over 36 sites. Managed up to 14 staff performing site investigations of petroleum contamination by soil gas survey, geoprobe, boring and well installation and sampling at over 130 sites.

RCA/Thomson Circleville Facility RI, Circleville, Ohio.

Senior Hydrogeologist. Investigated lead contamination of groundwater at a CERCLA site, including hydrostratigraphic analysis, groundwater treatment contingency planning, and transport and fate of dissolved and colloidal lead in groundwater.

Riverfront Wellfield Contamination, Sioux City, Iowa

Project Manager. Delineated the extent of PCBs and diesel fuel, and developed a workplan to further characterize the site and develop remedial measures. Geophysical and soil gas surveys and a groundwater monitoring program were utilized to monitor contamination entering the wellfield and to provide water supply protection.

Numerous oil and gas brine contamination cases, Northeast, Ohio

Project Manager. Conducted site investigations of groundwater contaminated by formation brines, de-icing road salts and brackish groundwater. Included numerous legal cases involving litigation support, testimony and depositions. Work resulted in revision of existing Ohio law.

Millard Avenue Expansion, Toledo, Ohio

Senior Engineering Geologist. Completed a CERCLA-format workplan, QAPP and RAO for expansion of a road through an industrial area with soil and groundwater contamination from numerous landfills, CERCLA sites and the largest active hazardous waste landfill in the country.

DOT regulations required compliance with CERCLA regulations and guidelines with agency review and negotiations. Used a soil gas survey and hydrostratigraphic analysis to preliminarily characterize the site.

Dura Road Landfill, Toledo, Ohio

Senior Engineering Geologist. Hydrogeological investigation for an RI/FS at a pre-RCRA landfill site. An extensive geophysical exploration was conducted to delineate the extent of waste. PCB's, oily-wastes, organic solvents and metals were detected in groundwater and multiple soil zones using a special drilling and casing program to minimize cross-contamination of soil zones.

CECOS Aber Road Facility, Clermont County, Ohio

Project Manager \ Senior Engineer. Conducted a comprehensive hydrostratigraphic analysis and waste cell design evaluation at a large TSCA/RCRA hazardous waste disposal facility. Review included investigation of groundwater contamination, monitoring and statistical evaluation procedures and results, HDPE-liner installation in freezing temperatures, cell closure methods, and drum handling and waste treatment facility decommissioning procedures. Provided litigation support and expert witness service.

Central Ohio Landfill, Mount Vernon, Ohio

Project Manager. Modified closure plan was completed for an existing landfill nearing capacity. Design included monitoring systems, abatement of leachate springs with horizontal gravity-fed screens, routing and treatment of leachate, and a cover liner.

Model Landfill, Columbus, Ohio

Senior Engineering Geologist. Conducted a geotechnical and hydrogeological investigation for a modified closure plan. Developed a groundwater flow and solute transport (numerical) model to evaluate various remedial designs for management of the leachate and cover lining.

Triangle Landfill, Chillicothe, Ohio

Senior Engineering Geologist. Conducted a subsurface and geotechnical investigation for expansion of an existing landfill. Surface geophysics and test borings were used to determine the amount of suitable cover material and the proper configuration for the expansion cell.

Knox County Proposed Landfill, Mount Vernon, Ohio

Project Manager. Completed a geotechnical and hydrogeological evaluation for the permit-to-install application for a municipal landfill site. Designed a groundwater monitoring system and multiple waste cells. Utilized surface geophysics and borings.

Franklin County Landfill, Franklin County, Ohio

Senior Hydrogeologist. A soil-bentonite slurry wall was installed so that, with the leachate collection system, hydraulic gradients into the landfill were maintained. Pumping tests and flow modeling were conducted following construction to evaluate the isolation of the landfill operation from adjacent aquifer system.

Marion County Landfill, Marion, Ohio

Project Manager. Completed geotechnical and hydrogeological studies for the siting and design of a municipal landfill. Surface geophysics, pumping tests and a groundwater model were utilized. Installed the groundwater monitoring system, and designed the waste cells with a slurry

cut-off wall, synthetic liner and leachate collection system.

Henrico County Landfill, Richmond, Virginia

Project Hydrogeologist. Completed geophysical and hydrogeological studies to estimate the fate and transport of leachate from an existing landfill.

Hillyard Dross RI/FS, CAP, Spokane, Washington.

Project Manager and Senior Engineer for a BNSF leasee site with over 100,000 cubic yards of aluminum dross and associated contaminated soil. The aluminum dross piles contain concentrations of fluoride, nitrates, chloride and ammonia that are of potential concern for human health and ecological receptors. Completed an RI/FS and engineering. PRP negotiations are ongoing, and construction is expected for Fall 2001. Fate and transport evaluations, and a baseline risk assessment, were completed to determine whether the presence and concentration of contaminants posed a significant risk to human health or the environment. Alternatives that were considered in the FS were: no action; institutional controls with long-term ground-water monitoring; excavation with off-site disposal; and, on-site containment beneath a multi-media cap. The Engineering Design Report detailed the specifications for the remedial solution, which was to install a limited-use landfill for the aluminum dross and contaminated soil.

Portland ANGB RI/FS, Portland, Oregon.

Managed over \$2.5M in work orders completing Remedial Investigation/Feasibility Study (RI/FS), Engineering Evaluation/Cost Analysis (EE/CA) and Interim Removal Action (IRA) under the Department of Defense (DOD) Air National Guard (ANG) Installation Restoration Program (IRP) for a site with soil and groundwater contaminated by VOCs, SVOCs and metals. Chlorinated solvents in groundwater are present at elevated levels upgradient of the City of Portland wellfield. Investigation included hydropunch, boring and monitoring well installation and sampling, treatability studies (in-well aeration) and aquifer testing. Data evaluation included ground-water and solute transport modeling, assessment of natural attenuation and risk assessments. EE/CA evaluation included excavation, SVE, bioremediation and treatment methods for soil contaminated with chlorinated solvents. FS included in-well aeration, natural attenuation, and containment strategies.

Southern Pacific Sacramento Rail Yard Interim Remedial Action, Sacramento, California.

Project Manager for a CERCLA RI/FS on the Lagoon Groundwater operable unit, and Senior Engineer on the South Plume Interim Remedial Action program. The site is currently the largest Brownfields Redevelopment site on the west coast. Tasks included sampling and aquifer testing plans, soil and groundwater data collection and evaluation, design of an 8 well extraction system, permitting (NPDES) for surface water discharge, preparation of RI Workplans, and preparation of an RI.

Smelter Hill NPL Site OW/EADA operable unit RI/FS, Anaconda, Montana. Project Manager for an operable unit of the Clark Fork NPL Site. Completed an RI/FS for the 1,340-acre Old Works/East Anaconda Development Area CERCLA NPL smelter site. Completed data collection and evaluation activities for a historic copper mine with soil and groundwater contamination by metals. Site considerations included disposition of over 1.4 million cubic yards of waste materials, stabilization of waste-impacted soils, evaluation of vadose zone transport at a semi-arid site, and complex stream-aquifer (transport and fate) relations. Responsible for negotiations with EPA and MDHES, and a related project completing remedial action objectives and feasibility of groundwater treatment systems.

McChord Air Force Base SIVE System, Washington

Remedial Engineer responsible for senior review of system design and modeling for implementation and pilot testing of a Steam Injection Vapor Extraction (SIVE) system for extraction of volatile organic contaminants from the unsaturated zone.

Experience Profile
David Welch, CPG, PE
Project Geologist

EDUCATION

B.S. Geology, Western Washington University, Bellingham, WA, 1984

PROFESSIONAL AFFILIATIONS

AHERA Building Inspector, Supervisor & Project Designer
NIOSH 582 Air Monitoring Technician
California Site Surveillance Technician (asbestos)
Building Inspector & Supervisor, Montana
International Fire code Institute-Certified Washington UST Site Assessor
EPA-Accredited Lead Inspector Training Course (Oregon State University)
Certified Expert Operator NITON Lead XRF Analyzer
OSHA 40-hour HAZWOPER Training
Certified Lead Inspector, State of Oregon (Cert. #148), State of Washington (Pending), State of Nebraska (EPA Region 10 Pending)
Certified Lead Risk Assessor, State of Oregon (Cert. #1281), State of Washington (Pending); State of Nebraska (EPA Region 10 Pending)

FIELDS OF SPECIALIZATION

Asbestos Building Inspections and Abatement Oversight
Asbestos Air Monitoring and PCM Analysis
Asbestos Project Design Specifications and O&M Plans
Lead Inspections
Hydrocarbon Assessment/Remediation
State RCRA Program: Model Toxics Control Act (MTCA) Cleanup Regulation Program, State of Washington: Remedial Investigation/Feasibility Studies (RI/FS)
Independent Remedial Action Process (IRAP)
Dangerous Waste Manifests
Phase I Environmental Site Assessments under ASTM "Due Diligence"
Phase II Environmental Site Assessments

EXPERIENCE SUMMARY

Mr. Welch has ten years experience in the environmental field, having served as Project Manager/Project Geologist on assignments related to asbestos building inspections and abatement oversight, asbestos project design specifications, asbestos air monitoring, asbestos Operation and Maintenance (O&M) plans, assessment and remediation of contaminated soil and groundwater, Phase I Environmental Site Assessments and CADD design. His asbestos experience includes managing projects in Washington, Oregon, Idaho, Montana, Arizona and California.

His geotechnical experience has been focused on state-equivalent RCRA, and UST programs in Washington, Oregon, California and Nevada. Mr. Welch has primary experience in hydrocarbon contamination but has also managed projects relating to mineral spirits, PCE, and Lead.

Mr. Welch has been involved with a variety of traditional and innovative remediation technologies, including pump and treat systems, vapor extraction, bio-enhanced vapor extraction, air sparging and aboveground bioremediation cells. Mr. Welch has experience in supervising drilling assessment projects utilizing hollow stem auger, mud rotary and air rotary technology, and installation of groundwater monitoring wells, recovery wells, and vapor extraction wells.

RELEVANT PROJECTS INCLUDING JOB TITLE AND JOB RESPONSIBILITIES

Independent Remedial Action, Spokane, Washington. Managing an Independent Remedial Action under MTCA on a former foundry site with extensive lead contaminated soils. Conducted subsurface characterization and remedial investigation on site. Collected data from quarterly groundwater monitoring program on site that indicates lead is not leaching into a shallow groundwater table within the zone of highest soil contamination. Cleanup alternatives have been evaluated with a multilayer impermeable cap and imposed institutional controls proposed for a long-term solution.

Subsurface Characterization/Remedial Action, Bellevue, Washington. Assisted in field assessment, modeling and reports pertaining to a release of tetrachloroethane (PCE) into subsurface soils at a former dry-cleaning facility. The project was concurrent with a contracted development of the property into an upscale shopping center. The project underwent an IRAP coordinated with the Washington State Department of Ecology (WDOE).

System-Wide Asbestos Program, Major Railroad. Asbestos Inspections, Re-inspections, Pre-Design Survey, CAD design, Design Specification Manuals, Project Site Management/Air Monitoring and Building Inspection Reports in the States of Washington, Oregon, Idaho, Montana, Arizona and California.

Asbestos Management--Major Bank. Project Management, Survey, Design and Project Site Management during removal of asbestos-containing materials at four bank branches undergoing remodel in the Puget Sound area. Work was conducted at night during off hours and had special security access protocols that were adhered to.

Asbestos Management--Truck Manufacturer. Project Management, Facility Survey, Design Specifications, Operation and Maintenance Plan, Awareness Training Seminars at Seattle Plant. Survey required lift access coordination and site safety considerations.

Asbestos Management--Multi-tenant Commercial Building Owner. Project Management, Facility Survey, Design Specifications Manual, Proposed Operation and Maintenance Plan and Awareness Training Seminars. Survey was conducted for existing owner as part of an interested buyer's request. Project conducted concurrently with independent remedial action for this former bulk fuel terminal. Proposed multiple options and costs for asbestos management/removal depending on future site use.

Phase I ESA, Asbestos Building Inspection, Project Design Specifications and Project Site Management/Air Monitoring--Industrial Building Owner Partnership. Following a Phase I ESA/AHERA Building Inspection, the client contacted Mr. Welch three years later to design the removal of all previously identified friable asbestos-containing materials. The project was conducted within the proposed budget and schedule.

QUALIFICATIONS

I am a certified industrial hygienist with over 17 years of health and safety consulting experience. My experience has included nearly all aspects of OSHA compliance including exposure monitoring and sampling, compliance audits, program development, and training.

Clients have included federal government (Army Corps of Engineers, FAA, US Postal Service, and Veteran's Administration), state and local governments, architects, contractors, engineers, health care providers, insurance companies, large and small industry, law firms, and transportation.

I served as a corporate health and safety director at Maxim Technologies, Inc., safety committee member at Braun Intertec, and Office Safety Coordinator at HDR Engineering, Inc.

WORK HISTORY

2001-Present

Principal, Environmental Health, Inc.

I am the sole proprietor of Environmental Health, Inc. I have aided with logistical arrangements for a railroad client's mobile medical monitoring program, collected exposure samples and performed noise monitoring. Additionally, I have written material safety data sheets and provided consultation for construction activity at a site where hazardous materials were present.

1997-2001

Senior Industrial Hygienist, HDR Engineering, Inc. - Senior Industrial Hygienist, Braun Intertec Corporation

I was responsible for performing investigations, health and safety audits, training, and project management for OSHA-compliance and indoor air quality projects. The highlights of my work are as follows:

- Collected exposure samples for chemicals and noise. Data was interpreted and recommendations for abatement were provided in a written report to clients.
- Developed numerous OSHA-required plans and programs: these have included process safety management plans for highly hazardous chemicals and associated training.
- Developed site safety plans for hazardous waste site work and provided all levels of the associated hazardous waste site operations training and emergency response training.
- Performed compliance audits for all areas of OSHA compliance, including: asbestos, confined space entry, electrical safety, emergency response, fire safety, housekeeping, lead, lockout/tagout, noise exposure, personal protective equipment, powered industrial trucks, program development, record keeping, training, and working and walking surfaces.
- Performed microorganism investigations for insurance companies and office building owners. Duties have included air, bulk, and surface sample collection and writing reports to the client with data interpretation and recommendations for abatement.

- I served on the Safety Committee at Braun Intertec and served as the Office Safety Coordinator (OSC) for HDR. OSC duties include conducting health and safety committee meetings, OSHA-compliance training and record keeping, accident and injury record keeping and reporting, office safety audits, and medical surveillance coordination. The office safety program went from a program that met requirements to an exemplary program while I was the OSC.

1991-1997 and
1985-1988

Senior Industrial Hygienist-Health and Safety Director, Twin City Testing-Huntingdon Engineering-Maxim Technologies

During my initial employment with Twin City Testing I conducted surveys for asbestos, wrote asbestos survey reports, and managed asbestos abatement projects.

Management of asbestos abatement projects included the following:

- Project design.
- Project administration (pre-bid meetings, review bids and make recommendations to the owner, collect and review submittals, approve payment requests, and final walk-through with contractor and building owner representatives).
- Inspect and ensure engineering controls were properly implemented and maintained.
- Air sample collection and analysis.
- Daily reports to the owner's representative regarding the contractor's work practices, air sampling results, and contractor's progress to ensure the contractor's work was in compliance with regulatory and contractual requirements.
- Visual inspection of removal areas for cleanliness and clearance air sampling.

During my second term period of employment with this company I was also responsible for project management of OSHA-related and indoor air quality projects.

My work included the following:

- Designed and oversaw asbestos and lead abatement projects.
- Conducted exposure studies and audits related to OSHA compliance for external clients and internally. I performed workplace exposure and microorganism sampling and provided reports with data interpretation and recommendations for abatement.
- Provided the following: confined space entry, forklift operator, hazard communication, hazardous waste site operations, personal protective equipment, and respiratory protection.
- Conducted health and safety audits of 500 to 600 FAA facilities.
- Provided expert testimony for Workers' Compensation cases.
- I was the Health and Safety Director for Maxim Technologies' northern region that included approximately 500 employees. Duties included OSHA-compliance training; record keeping; accident and injury record keeping; office safety audits; Workers' Compensation program; implementation of the drug and alcohol testing program; hazardous waste characterization, tracking, storage, manifesting, and disposal; and medical surveillance coordination.

I was also involved with the following:

- Taught courses at Hennepin Technical College (Eden Prairie), Minnesota Safety Council, and the Midwest Center for Occupational Safety and Health.
- Served on the advisory committee for the Hennepin Technical College Environmental Chemistry program.

1988-1991

Office Manager-Department Manager, Delta Environmental Consultants, Inc. Managed 8 to 12 staff, project manager, and responsible for field work and training. I performed asbestos and lead inspections. As a project manager, I developed asbestos abatement specifications, held pre-bid and progress meetings, acted as the owner's representative and oversaw abatement projects. Duties included air and bulk sample collection, ensure engineering controls were in compliance with specifications and regulatory requirements, and clearance inspections and sampling. I also performed OSHA-compliance monitoring and indoor air quality investigations.

1976-1980

Hospital Corpsman, US Navy

I served as an emergency medical technician and ocular technician. I was awarded letter of commendation from the Commanding Officer of the Naval Regional Medical Center-Oakland for correctly diagnosing and timely referral of a patient with an acute eye condition. Was "Sailor of the Month" for the Naval Regional Medical Center Regional Clinic-Moffett Field. I was honorably discharged.

EDUCATION

1984

BA, Augsburg College

Physics major with a math minor

1990

MS, University of Minnesota

Environmental Health with an industrial hygiene emphasis

LICENSES & CERTIFICATES

- American Board of Industrial Hygiene, Certified Industrial Hygienist (1991).
- Certificates for a variety of short courses including fungi sampling and evaluation, professional writing, ergonomics, and process safety management.
- Formerly certified as an asbestos inspector, management planner, designer, and lead inspector.

INTERESTS & ACTIVITIES

- Coached hockey for the Rosemount and Eagan hockey associations for a total of nine years. Currently a Director with the Eagan Hockey Association.
- Coached baseball and soccer for three seasons in Eagan.